

NASA Deputy Administrator Lori Garver's Remarks
National Space Symposium
April 12, 2011

Thank you for inviting me on behalf of Charlie Bolden who sends his regards. It is an honor to be speaking on this momentous day as we celebrate the 50th anniversary of Yuri Gagarin becoming the first human in space, and the 30th anniversary of the first shuttle mission that opened a whole new era in human spaceflight.

We have an incredible history to build on, and a lot of opportunities ahead.

In thinking about what to say to you today, I was reflecting on why we all come to the NSS. Why have we gathered here and why do we continue to do it every year? I started with the meaning of the words...National...Space...Symposium.

We know we're here for a "symposium" and we know what a symposium offers – a series of speakers and sharing of ideas. It's not just any symposium; it's a "national" symposium, speakers from industry and agencies and participants who gather to discuss ideas to advance the interests of our nation as well as finding ways to collaborate with our international partners. But it is the third word, which is the most important word. We are here to discuss "space."

What do we mean by space? Does space mean the place outside of our atmosphere? Sometimes it does. There will be plenty of discussion here concerning that aspect. But that's not all – we are not all the same. Some of us are bureaucrats or bean counters. Some of us are directly involved in the utilization and exploration of the world beyond our atmosphere and some of us are only indirectly involved. In other words, that one definition may not sufficiently capture the single, common reason we're all here this week. So, what does unite us...? All of us?

We in aerospace and NASA are not the only ones who think about "space." Architects and interior designers, for example, refer to room as "spaces." Invite one over to your office or your home and they won't say "nice office" or "I like

what you've done with the place." They will talk about the space. Space to them, is an area of opportunity. A place that can be filled with the things they can imagine – Space is opportunity.

It seems to me that this is the reason we're here. Because we imagine. We look beyond our atmosphere, and imagine what's possible. But we're not special. We are all born with this ability. Give a child a blank piece of paper and some colored pencils – (a blank space and the means to fill that space), and what will they do? They will draw. They don't discuss if the paper is big enough or if the colors are the ones they wanted. They just pick up the pencils and start drawing – creating. They bring to life the things they imagine. Nothing gets in the way.

But then something happens. We get older. We start to learn more. Gain an education. Become adults. We're saddled with things like responsibility and we're told to be practical. We don't just start drawing or creating before stopping to think about it. We hesitate. We stop seeing what we can with the blank pieces of paper and start looking for all the things that will prevent us from doing what we imagine, the limitations of authority, and the lack of resources. Reality starts to become the excuse we give to stop us from building what we imagine. That is, after all, what it means to grow up. This is the case for everyone on the planet.

Except here

Ours is a country of people who imagine and who work tirelessly to do what others think is crazy. In fact, our country is so good at it that others come here knowing that they will not be held back or mocked for their ideas, but encouraged and supported. Einstein chose America. Von Braun, who had the opportunity to go with the Russians after the war, chose America.

We all know what it means to come to America, it has been clear for over 200 years. It means you can dream. It means you have the opportunity to do the impossible. It means you have the opportunity to innovate and lead and inspire. And it is because of this very idea that we have NASA.

I believe that NASA, more than any other agency, organization or even private company represents what it means to be American. NASA captures the spirit of imagination. NASA is not simply about going to or exploring space – it is about filing space. It is about starting with a blank piece of paper and a few pencils and making with others can only dream of come to life. And it is the impossible, those things that others can say can't be done and are beyond our abilities as human beings, and exploring is the most human characteristic of all.

But to what end? Just to do impossible things? Every feat NASA has ever achieved, from putting a man on the moon and bringing him back home safely to building a reusable space vehicle, which was previously the stuff of comic books and movies, to sending a spacecraft well beyond our own planet to see what's out there, was once deemed impossible. We did all these things, not because they were easy, as President Kennedy reminded us, but because they are hard. Because they serve to organize and measure the best of our energies and skills. All these things serve as proof of what we, as human beings, are capable.

But testing out abilities is not enough. Ours is an organization devoted to doing these things – learning, exploring and inventing. And not simply to prove that we can, but if we can learn, discover and invent, these things will benefit all human kind. And that is the impact of the work we do. It's an agency founded for the express purpose of doing things that will benefit all people. The Space Act of 1958 that created NASA says it explicitly: The Congress declares that it is the policy of the United States that activities in space should be devoted to peaceful purposes for the benefit of all humankind.

This is the reason NASA exists, this is the why we do what we do – **“To reach of new heights and reveal the unknown so that we do and learn will benefit all humankind.**

The images MESSENGER has been returning from Mercury this month help us tell a part of this story. No one has ever orbited the closest planet to our sun before. This journey does indeed represent the very reason we exist – to reveal the unknown. And this summer, we plan to send a spacecraft named Aquarius into

orbit to examine the oceans' salinity and find out more about how that affects the climate. It will give us learning and an understanding that won't just benefit our nation – but all humankind. And later this year we will send a rover, named Curiosity...to the dusty red surface of Mars.

No one can deny it has been a year of tough choices. Everyone's had to make them. But these kinds of choices have never stopped us before. We are reminded that NASA is at its best when reality gets in the way. After all, we've been beating gravity for over 50 years! That's what makes us NASA. When challenges lie ahead, when resources are tight, when the technology has not yet been invented...we figure it out. Just look at the technology we have advanced for the James Webb Telescope? We want to look farther back into the Universe than the Hubble Space Telescope? We want to look 10 times farther – to the very beginning of the Universe? We want to view a blue ocean or a distant planet. We invent the technology we need...and with your help we get things done.

We don't talk enough about the things over the next horizon – the things we can imagine today. Forty years ago, the notion of a reusable winged spacecraft that launched to orbit and glided home like an airplane seemed like science fiction. But today, after more than 130 launches, and thanks to so many of you who have worked on the Space Shuttles sat that they are like children. I understand that after 30 years with them, retiring them seems like the world will end. I certainly thought that when my son left for college last summer. But I think many of you would agree that when the children leave the nest, it is a re-birth not a death. Yes, we feel many emotions in addition to sadness...Pride, a sense of worth and accomplishment, trepidation, maybe a bit of relief...and hope. As Dr. Seuss said, "don't cry because it's over, smile because it happened." Though this is the end of an era – it is an opportunity to fill a new space in our imaginations.

Our past is important and valuable. It reminds us not simply what we have done, but what we can do. If anything our past should teach us that we are at our best when we look to the future.

To get stuck in the past, to forget why we exist, has side effects. For if we are not clear on why we exist, then how will other know why we need to exist? Government will not play the same role in the next half-century of human

spaceflight that it did during the first half-century and private sector will be more involved than ever. Working alongside others who dream as we dream will only increase the impact we can make as we continue to travel, explore, and learn. And NASA's fundamental role of inspiring and leading those efforts, as we have done for over 50 years has not changes and will not change.

NASA is and has always been the organization that imagines the impossible sets out and achieves it. Once we've done what no one else can do, then the private sector takes that achievement or technology and makes it more scalable. They bring the things achieve to a broader market to benefit people across the globe. That's what the private sector is supposed to do. But make no mistake about it, we are the pioneers. We blaze the path and the private sector paves the roads we build, they pave our roads so that many others may travel down them. It is of no value to the greater good for NASA to compete with the private sector. Our role is to lead and work with them. Because of the private sector, we have commercial satellites that connect the world. Because of private sector we are creating whole new segments of the economy that will have even greater benefits to humankind. After all, it is not just those of us who work in the government who can imagine.

We in the government must continue to lead in technology development. Indeed, NASA's renewed focus on innovation and technology is vital to brining reality to those grand challenges of the future. By investing in high payoff, disruptive technology that industry cannot tackle today, NASA matures the technology required for its future missions in aeronautics, science, and exploration. We prove the capabilities and lower the costs for other government agencies and for commercial space activities.

Right this moment, our priorities are known – to safely fly out the shuttle program, to maintain the safety of our astronauts on the International Space Station; develop deep space exploration vehicles; facilitate commercial access to the station – providing multiple, made in America paths to Low Earth Orbit; transform the knowledge landscape through our Earth and space science mission; and make the breakthrough in aviation technology that will make flying safer, more efficient, and greener.

But these immediate priorities are only the beginning.

After all we exist to reach for new heights, and to reveal the unknown so that what we do and learn will benefit all humankind. No matter what we've accomplished, there is always a part of space, an untapped or unseen opportunity, which we can fill. We are limited by one thing and one thing only – the limits of what we can imagine. If we can see beyond what others can see, then we can go beyond where others can go. If we can learn what hasn't been learned, then we can continue to inspire future generations.

NASA is the very symbol of what American means. We dream as our founding fathers dreamed. We invent as the great minds before us invented. We see past limits, and go beyond what's thought possible; together we push the boundaries of science itself.

When you leave the National Space Symposium at the end of the week and someone asks you "what do you do?" Tell them you create the future. Tell them the opportunity space offers us all. Tell them you wake up every single day with a sense of giving back and doing the things that can and will leave the world and those who live on it in a better shape than we found it. Tell them America and NASA are reaching higher.